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GEORGE W. YORK,
Editor.

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NO. 19.



Dr. A. B. Mason, of Auburndale, O., is in Chicago looking after the Ohio honey exhibit at the World's Fair. He called on the BEE JOURNAL, with the same cheering smile that he used to carry along wherever he went, though a loss in avoidupois has lessened his once plump and somewhat "aldermanic" appearance. But he's the same friendly, jolly, good Dr. Mason, whom all who have ever met want to see as often as possible.

The Foul Brood Articles, promised by Mr. Wm. McEvoy a few weeks ago, are begun on page 594 of this number of the BEE JOURNAL. The first article is devoted to discussion of the cause of foul brood. Directions for treating and curing the disease will follow. We hope all that Mr. McEvoy writes upon this subject will be read carefully, as "he speaks as one having authority," after his large experience as Foul Brood Inspector for the Province of Ontario, Canada.

Mr. S. F. Trego, of Swedona, Ills., has purchased his partner's interest in the firm of S. F. & I. Trego, and will assume all responsibility. The management will be the same, as he has practically had entire control of the business the past three years. You will find Mr. Trego's "Fishing" advertisement on another page.

Mrs. L. Harrison has returned from Florida, where she has been spending the winter, to her old home at 821 Hurlburt St., Peoria, Ills. In a letter received from Mrs. H., dated May 2nd, at St. Andrews' Bay, Fla., she says:

Bees have done well this spring in this part of Florida, but are now taking a partial rest until the blooming of the saw-palmetto and other flowers. There is a flower here which is very abundant, and I watched in vain to see bees working on it, and questioned local bee-keepers to ascertain whether it is a bee-plant or not. This plant has a pale yellow tap-root, the leaves are pale green, soft and velvety. The flowers grow on a spike, are of a lavender color, have two wings, a banner and a keel, and in the center of the banner is a dark purple spot. The woods are full of these flowers, and a tourist calls them "lupines." Will some of our readers, who live where this plant grows, tell us more about it?

MRS. L. HARRISON.

International Bee-Convention.

—The time for holding the next meeting of the North American Bee-Keepers' Association in Chicago, has finally been agreed upon. October 11th, 12th and 13th are the days selected. We have received the following letter from Secretary Benton, which gives full explanations, etc., and which we trust will be noted by all our readers:

EDITOR AMERICAN BEE JOURNAL:—As there have been but five responses to your suggestions in the editorial columns (page 323) of the BEE JOURNAL for April 6th, regarding the date of the next meeting of the North American Bee-Keepers' Association (one of the five being also in favor of October), I infer that an "overwhelming majority" of the bee-keepers of our land are in favor of holding the convention in October, as originally proposed. The President of the Association first suggested the third week in October, but I think we are now all agreed upon the second week—October

11th, 12th and 13th—which will probably accommodate more than would any other time.

There is promise of a large and interesting meeting, and the presence of many whom we all want to see. Due notice will be given of programme, local arrangements, etc., and the names of famous bee-masters who promise to be present, will be announced. There will be no lack of accommodations at moderate rates, so let every bee-keeper come who possibly can do so. It is an occasion the like of which this generation will not again see.

FRANK BENTON,

Sec'y North Am. Bee-Keepers' Ass'n.
Washington, D. C., April 29, 1892.

We can only second the cordial invitation extended by Mr. Benton, and hope that all who possibly can do so will arrange to attend what promises to be one of the most interesting meetings held in Chicago this century. Let it be a general "swarming time" among bee-keepers themselves, having "selected" a place "in advance," and proper "scouts" will now do their best to find a suitable "hive" in which the "swarm" may bring their "stores" for the benefit of all.

What Bro. Alley Wouldn't Do.

—In the May *Apiculturist* Editor Alley tells some of the things that he "wouldn't do," and among them we find the following, that have been crystallized from his over 30 years' experience:

I wouldn't feed in the spring to stimulate brood-rearing. If feeding must be resorted to, let it be to prevent starvation only.

I wouldn't spread combs of brood and place empty ones between before June 10th. It will injure any colony to do such work before the date named.

I wouldn't use a hive that has a brood capacity of over 1,800 cubic inches, or say eight standard Langstroth frames. There are over 50,000 bee-keepers who think as I do on this point.

I wouldn't feed bees rye-meal, wheat-flour, or anything else in the spring. Anything that induces bees to leave their hives when the weather is cool, is wrong, and an injury to the colony.

I wouldn't introduce a new queen for the sake of changing the race of any prosperous colony of bees. Those who do so will be the losers in the end. After the swarming and honey seasons are over, then change queens if necessary.

I wouldn't wait for the honey to be capped before extracting, if I were running an apiary for extracted honey. As soon as the cells are full of nectar, and capping has been commenced at the top of the combs, I would commence to extract. I would put the honey in barrels from which one head

had been removed, and there let it remain in a well ventilated room until fall. You can rest assured of the fact that the honey will not ferment, but will be ripened in the very best possible manner. I have tried it, and know what I am talking about.

I wouldn't use a section-case that is non-reversible. When sections are half full, or even quite full, if reversed the bees will attach the combs solidly to all sides of the section. Honey so stored can be shipped a long distance without breaking or leaking.

I wouldn't put sections on a hive no matter how populous the colony, until I could see that the bees are gathering some honey, and had started to build brace-combs between the top-bars of the frames. Then I would put a few sections on, but not over one set of 24 sections at a time.

I wouldn't climb 40 feet into a tree for a swarm of bees when one issues, thus running the risk of breaking my neck. Nor would I permit a swarm to issue before a queen-trap was placed upon the hive. Use the trap, and the necessity for climbing trees for bees is wholly obviated.

I wouldn't stay at home from church on Sunday watching bees, fearing a swarm might issue and decamp. I'd rather use a queen-trap, and thus force the bees to return and issue again when more convenient for me to care for them. No, sir, I don't allow bees to keep me away from church or any other place. I always feel easy when away from home, if queen-traps are on all my hives.

Mr. E. J. Baxter, of Nauvoo, Ills., (who is a son-in-law of our friend Chas. Dadant), called on us last week. Mr. B. reports his 300 colonies of bees as having wintered with a loss of only about 8 per cent. Last year his crop was between 10 and 12 thousand pounds of extracted honey. In 1883, he secured about 10,000 pounds from 41 colonies, one colony alone gathering over 600 pounds. He has never had a total failure of the honey crop, and ships the major portion of his honey to distant markets, always guaranteeing its purity.

Illinois Bee-Keepers have finally succeeded in securing an appropriation of \$3,000 from the State, for the purpose of making a honey exhibit at the World's Fair. We doubt not those having the matter in charge, will soon have something to say to the bee-keepers of this State on the subject of an exhibit. Other States are now placing their exhibits, and our grand State must not fall short, though it was very late in getting the necessary funds.

"Bees and Honey"—see page 581.

The "Shake-Out" Function of hives as practiced by the native bee-keepers of Carniola is described thus by Mr. Frank Benton in an article published in *Gleanings* for April 1st:

The hive which, for several centuries, has been most commonly used in Carniola is about 6 inches deep (inside measurement), 36 inches from front to rear, and 12 inches wide, no frames being used. These hives are placed in bee-houses, each tier of hives resting on separate stringers of its own so as to be removable, by sliding out at front or rear, without interfering with the others. There are generally 6 or 8 tiers—often 50 hives in each tier. The rear end of each hive (occasionally the front end instead) is removable for the purpose of feeding, introducing queens, etc., while to get at queen-cells, the bottom is taken off—the latter being commonly fastened by hand-made, wedged-shaped nails that are easily pulled. Frame hives are not popular, the few bee-keepers who have tried them, not having, except in rare instances, understood their advantages. But frames, when used, are mostly shallow—from 6 to 8 inches only in depth, and are placed crosswise of the hives, being removable from the rear end.

There is in Carniola, on the whole, very little manipulation of combs or interference with the interior of the hives beyond the cleaning of the bottom-boards, feeding (which is diligently practiced), and the supplying occasionally of a queen or a queen-cell to a hive that has through accident become queenless.

The native bee-keepers do not often have occasion to hunt out queens; but when they do (most of the hives, as already stated, being without frames), they can only remove the bottom-board and shake out the bees. They do this by main strength, taking hold of the box in the middle, and giving it several violent jerks downward. But as the main cluster of bees (especially in the fall, or in weak colonies, after-swarms, etc., or in such as have stored the rear end of the hive full of honey) is generally in the front end of the hive, I was able to adopt, and to show the native bee-keepers in many places, much to their delight, a far easier way; namely, the plan of holding the back part of the hive between my knees, while I grasped the sides about six inches from the front end and gave two or three quick downward jerks, each followed by a quicker upward motion, thus landing about all—often times *all*—of the bees on the ground. In this way I often captured from these box-hives, and caged in mailing-cages, 30 to 40 queens in two or three hours.

In an editorial under "Shallow brood-chambers and the shake-out function centuries old," Bro. Root comments on the above, written by Mr. Frank Benton, and says:

All of this is exceedingly interesting—the more so as Mr. Haddon has claimed, if we mistake not, that these ideas were entirely

new and original with himself. We have seen references to both of these things before, but were not aware that they were ideas that were older than almost anything else use in apiculture. The fact that the shake-out function is, and has been, practiced successfully by the Carniolan bee-keepers, and was also employed by Mr. Benton in making successful catches of queens, goes a long way toward establishing its practicability. By the way, is it not a fact that Carniolans are better adapted to shaking out of a hive than Italians are? The latter don't "shake worth a cent."

GENERAL QUESTIONS.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 25 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—Ed.

Frames Having Pollen in Them.

Where frames have pollen in them, what is the best use they can be put to in the apiary? FRED F. ROCKWELL.
Leonard, Tex.

ANSWER.—Generally, nothing better can be done than to let the bees keep them. Sometimes a comb filled with pollen is as valuable as one filled with honey.

Frames of Honey for New Swarms.

Bees are swarming and doing well. I give to each of my new swarms a frame of honey, and I think it is a good plan. What do you think of it?

F. J. R. DAVENPORT.
Nash, Tex., April 12, 1893.

ANSWER.—Generally a good plan. If a few days of very bad weather should prevent gathering, such a supply would be of great value to a swarm.

Will the Nucleus Swarm?

If I confine a queen on 3 Langstroth frames (like Mrs. Atchley mentioned some time ago), will they swarm, or will they not? Or, if I confine her with queen-excluder zinc, will the bees supersede her when she cannot follow, in case they do swarm? I would like to know how (every detail) it is done. I have a fine queen, and would like to keep her

as long as possible, and if I blunder into something I do not know anything about, I will be sure to "get out in the little end of the horn."

Bishop Hill, Ills.

D. LINDRECK.

ANSWER.—Confined on 3 three frames, you may be sure of a swarm whenever the nucleus becomes strong enough, and much sooner than if more combs were given. If excluder zinc prevents the escape of the queen, you may be pretty sure she will be killed.

If you want to keep the queen from laying much, it may be well to try a plan given by Dr. Miller. Set your nucleus on top of one of your regular hives. As soon as you think there is any danger of too many bees, or sooner, remove the nucleus and set it on the top of another hive, thus changing it to a new place each time it becomes strong enough, only allowing it to be left undisturbed long enough toward the last of the season so that it will be strong enough for winter.

Each time you remove the nucleus the field bees will return to the spot from which they were removed, and unite with the bees below.

Bees Leaving in March—Large Hives.

1. Did you ever hear of bees leaving in March? I went out on March 22nd, and noticed a colony of Italians which had always been inactive, just boiling. They would come out, crawl up on the hive, circle around, and then make a liner across the field. I thought they were robbers, so I closed the entrance for one-half hour, then opened it again to see the dead bees, but there were none to be seen. I then opened the full entrance, and went back in three hours—I had a lot of empty combs, bees all gone, and no brood. I could not find even a dead queen, which would have been the case had robbing been going on. Now I think they must have had it all made out, as they did not carry in any pollen, while the other bees were just rolling it in for 2 or 3 weeks before. However, not to be "bluffed," I bought 10 colonies of Italians at an auction for \$30, the very next day. The storm blew off the covers, and drenched the outside combs. I took out the wet combs and packed them in burlap. The next day I saw hundreds of bees lying around shaking, shining and black, and very large. I suppose they were bloated. I have not a single colony of blacks or hybrids.

2. Now what was the matter with them? They were hauled 10 miles over rough country roads, in a spring wagon. The hives are 18x30, and 26 inches high. They are the "Crown" pattern, with 18 closed-end frames, 11x12 $\frac{1}{2}$."

3. Are not 18 frames too many for one queen? Could I put a division-board in the center, and introduce another queen, thus having 2 colonies in one hive? But I am afraid there will be "scrappin'" going on up in the super. At all events, I will experiment and report my success.

J. C. WALLENMEYER.

Evansville, Ind.

ANSWERS.—1. Yes, bees often leave their hives in March, sometimes a number of hives being deserted at a time. Usually a hive is deserted for want of stores, but sometimes a sort of mania seems to possess them, and a number of colonies will swarm out and mix up, with no apparent excuse for it.

2. Possible the drenching the bees got was enough to account for all. As you describe it, the appearance is much that of the "nameless" disease, only you report as though there had been nothing of the kind before the drenching.

3. Your hives are larger than would be preferred by many, especially for comb honey, but some would say they are none too large for extracting. If you cut in two with a division-board, it will be pretty small. Bees of 2 colonies admitted to the same super have been known to work together quite peaceably.

Bee-Keeping for Profit.—The second edition of Dr. Tinker's new book is now ready to send out. It gives his New Management complete, and three years of added experience in its use by himself and other bee-keepers. Several new illustrations have been added, besides much new matter in regard to the use of perforated zinc. Price, 25 cents, postpaid, or clubbed with the BEE JOURNAL for one year for \$1.15.

Capons and Caponizing, by Edward Warren Sawyer, M. D., Fanny Field, and others. It shows in clear language and illustrations all about caponizing fowls; and thus how to make the most money in poultry-raising. Every poultry-keeper should have it. Price, postpaid, 30 cents; or clubbed with BEE JOURNAL one year, for \$1.10

**MASTER RALPH BENTON:**

Ralph is the youngest regular member of the North American Bee-Keepers' Association, being less than nine years of age, and is also a bee-keeper.

His father, Mr. Frank Benton, the present Secretary of the Association, it will be remembered, accompanied by Mrs. Benton, was engaged for some



RALPH BENTON.

years in the rearing and exporting of queen-bees from different countries in Europe, Asia and Africa. Mr. Benton is a native of Michigan, and Mrs. Benton of Western New York, though for some years previous to her marriage she was, under her maiden name, Hattie M. Wheeler, a teacher in the schools of Ft. Wayne, Ind. It was during their sojourn abroad that Ralph was born, on Aug. 2, 1884, at Munich, Germany. He seems to have inherited a natural love for all things in nature, especially *living* things—birds, plants, animals, and insects. He likes to make a garden and sow seeds, and watch the plants grow; to raise chickens, to gather flowers—particularly wild ones—and to collect insects.

To bees he first introduced himself at the age of two years—a lively colony of imported Palestines, into the hive of which he poked a long stick "to see dem tum out." This enterprise was such a signal of success that he got "the big head" suddenly. Fortunately, this went down long before he had learned to open a nucleus, and hunt out the queen, carry tools about the apiary, etc.

He owns one colony of bees—Carniolans—and at the last meeting of the North American Bee-Keepers' Association it was with money which he earned himself in the apiary that he paid his initiation fee and became a regular member. He regards the wearing of the red and gold badge of the Association, with its big bee, as quite an honor.

Ralph says he thinks he will always keep bees, and evidently he has his own ideas about some things, as a remark shows which he recently made to his father. They were looking at a hive made with an inner and outer case, and with a lot of slides and buttons on each, when he asked: "Papa, what's the use of so much trick-track about a hive?"

This young American bee-keeper speaks German in addition to English—in fact, he almost has two mother tongues, for he has used them both from infancy. We hope his interest in the pursuit may be of much value to himself and those about him.

Master Ralph has surely shown pluck and intelligence in one undertaking, lately. It seems the *Evening News*, of Washington, D. C., offered prizes of bicycles to all who would procure 100 subscribers to their paper. Ralph was the first to present 100 names, and claim his bicycle—a fine "Cinch, No. 2," whose catalogue price is \$35, which he won in less than three days after the offer appeared.

The illustration we present is from the Washington *Evening News* of April 4th, and represents him as he proudly rode away from that office with his new treasure.

Amerikanische Bienenzucht is the name of a bee-book printed in the German language, which we now have for sale. It is a hand-book on bee-keeping, giving the methods in use by the best American and German apiarists. Illustrated; 138 pages; price, postpaid, \$1.00. It is just the book for our German bee-keepers. We club it with the BEE JOURNAL for one year, for \$1.75.



CONDUCTED BY

Mrs. Jennie Atchley,
GREENVILLE, TEXAS.

Report of the Texas State Bee-Keepers' Convention.

(Continued from page 560).

FIRST DAY—AFTERNOON SESSION.

Promptly at 2 o'clock the meeting was called to order by Dr. Marshall, President *pro tem*, and all at once the attention of the whole body was called by Mr. Joe Dyer, artist of Greenville, asking the bee-keepers to scatter about through the apiary, as he wished to photograph the entire body of 75 persons, and the apiary consisting of about 400 colonies. This was done, and then he wished the convention to assemble at the convention stand, which they did, and he then photographed them in a group. The pictures are very fine, and every face recognizable, and even the numbers on the bee-hives are readable. The pictures we will try to give to the readers of the AMERICAN BEE JOURNAL soon.

THE SWARMING OF BEES.

Then the swarming subject was resumed and finished, and this question asked, "Is it best to have something convenient for bees to alight on?"

T. E. Miller thought it best to have some trees or shrubery in the apiary for the bees to cluster on.

SELECTING A HOME BEFORE SWARMING.

"Do bees select a home before swarming?"

A. M. Tuttle, J. R. Atchley, Mrs. Jennie Atchley, and C. M. Davis said that bees do not always select a home, as they have been known to swarm and remain settled for two days on the tree, and at other times they have been known to travel one day east, and cluster, then next day go west, showing that they did not always have a home selected.

CARNIOLAN BEES.

There were but few present that had any experience with this race of bees. Mrs. Atchley had tried them, and from all her observations they were nothing but a foreign black race of bees, mixed more or less with Italians.

CYPRIAN BEES.

Only three or four present had reared the Cyprians, as they called them, and all gave their experience with them—that they were good honey-gatherers, prolific queens, and great swarmers and cell-builders, but fearful stingers when properly stirred up.

HOLY-LAND BEES.

In the discussion on these bees it was decided that the Holy Lands and Cyprians, or Syrians, were about one and the same thing, only being bred in different countries made a little difference in their characteristics; about the same contrast made between the imported Italian and the homebred.

After all the discussion on the different races of bees, J. R. Atchley said that taking everything into consideration, he thought the Italians superior to any of the races, as they had been tried side by side, and year after year, with the blacks and most other races, and, to be honest, we must give the "blue ribbon" to the Italians.

HIVE-ENTRANCE AND FRAMES.

A question was then asked, "Is there anything gained by having the entrance to the hives parallel with the frames?"

W. T. Pryar's observations were that it did not matter where, or what part of, the hive the bees entered, just so they had entrance sufficient for them to go in and out.

Dr. Howard—I used to use a hive of the slanting pattern, and the bees entered at the side. My observations go to prove that bees unload at the first chance after entering the hive, and it makes no particular difference where the bees enter.

A. M. Tuttle—My observations are that bees that come in unload to the young bees, and they put the honey where wanted, so the bees may enter at any part of the hive with the same results.

C. M. Davis prefers an end entrance, and certainly would not like bees to enter at the sides of the hives.

Dr. Howard—I think we may always get some good comb honey if the bees enter at the side, as the surplus will

most likely be stored farthest from the entrance.

Dr. Marshall—I prefer bees to enter at the ends of the frames, as then they are enabled to deposit their loads sooner.

REMOVING HONEY FROM THE BROOD-NEST TO THE SECTIONS.

The committee handed in the question, "What is the best plan to get bees to move their honey from the brood-nest to the sections?"

Dr. Marshall—When bees have their brood-nest crowded with honey, put on sections with partly drawn out starters, if you have them, and uncap the honey in the brood-nest, and score the combs pretty hard, and the bees could not well repair the combs without some place to store the honey, and they will usually move the honey to the sections, and repair and clean out the brood-combs, and the queen will fill them with eggs; but we must be sure that we do not get undesirable honey in the sections. I have made considerable money by fooling the bees in that way.

Dr. Howard offered a suggestion, that it was pretty sure to start bees into the sections by causing them to fill themselves with honey, especially if there was a flow of honey, and the colony was strong, and he thinks we are fooling our time away, trying to get weak colonies to store honey in the sections, as it takes powerful colonies to pay in producing such honey.

C. M. Davis—I find it is hard to get bees to finish up or store honey in the sections after horse-mint is gone.

HONEY FROM COTTON.

The difference of opinions on cotton honey, etc., was as follows:

J. F. Teel said that cotton honey is perfectly clear, and of very fine quality. Others agreed with Mr. Teel.

A. M. Tuttle—The best flow of honey I ever saw was from cotton, and the honey is almost as clear as water.

W. R. Graham—Fifteen years ago cotton was not considered any honey-plant worth naming, but now it is the honey-plant of North Texas, and the honey is of fine quality, and granulates very quickly.

Several others thought that cotton honey was dark, and of an inferior quality.

WINTERING AND SPRINGING BEES.

The wintering and springing of bees in the South was next considered.

J. R. Atchley thinks that moderate

colonies and plenty of stores are best for the South, as the bees will build up and swarm as early as any, and be in just as good condition, or better, for honey gathering, as the larger colonies are liable to use their honey sooner, and be in worse shape than the smaller ones.

W. T. Pryar believes in strong colonies for winter and spring, and all the time.

J. F. Teel keeps his bees in a cool place in winter and spring for best results.

Mrs. Atchley believes in moderately strong colonies, and plenty of honey, as April and the first part of May is the time our bees suffer in this locality—North Texas.

LOCATING AN APIARY.

Another question by the committee was, "What are the most essential points to be considered in locating an apiary?"

J. R. Atchley—A place where flowers bloom incessantly; if possible, close to water. Then, a good apiarist.

Dr. Marshall—A place where honey is known to be plentiful, and water handy, and shade. Have an apiary as convenient as possible. I secured 60,000 pounds of honey in one season by locating in a good place. Much depends upon the location and the apiarist, to make bees pay.

J. F. Teel had his bees on a hill, and thinks an apiary should be located where the high winds, we usually have here in the spring, will not bother the bees.

J. A. Wilson—Bees do not do well in the cross timbers, or where the lands are poor. Bees should be in a place where the lands are rich, as the honey-plants will yield better.

John Robinson keeps his bees near a pool of water, and in a very rich belt of country, and they always do well.

THE YIELD OF HONEY-PLANTS.

"What is the cause of some good honey-plants yielding bountifully in some seasons, and others yielding none?" was asked.

Nearly every one present thought it due to the conditions of the atmosphere. When the weather is warm and balmy, honey seems to be plentiful in almost all honey-producing plants, and when cool and cloudy no honey is secreted.

Dr. Marshall said that in 1860 there was no rain from Feb. 14th to Aug. 14th, and everything produced honey. It would drip from the hickory trees,

and cover everything below. His theory is, that honey-dew is a saccharine matter, oozing from the life or sap of the plants, and in certain seasons, not too wet nor too dry, this saccharine matter is thrown out, as the tree has more sap than is needed. During that year he knew a swarm of bees to take up their abode in a hickory tree, and in the fall he cut the tree and took 412 pounds of good honey; a big story, but true, nevertheless.

At about 4 o'clock a motion was offered and carried, to adjourn until 9 o'clock on the following day. Then the bee-keepers spread all over the premises, like bees in quest of stores, as they had free access to all the apiaries and the house, and to make themselves at home. All except those that lived near by lodged at W. R. Graham's and Mrs. Jennie Atchley's, and every one was well pleased so far, and wore a broad smile, as bee-keepers are the most pleasing people in the world, anyway (so bee-keepers think); and in fact the whole affair seemed to be a reunion of an old family, and the enjoyments just as great.

A great crowd could be seen, around Master Willie Atchley, where he was grafting queen-cells, and passersby were attracted, as they thought it was a "monkey show," and all were pleased with what they learned about queen-rearing from Willie, some saying they would not take \$100 for what they learned.

(Continued next week.)

Bees Moving Eggs to Rear Queens.

On page 270 Mrs. Atchley controverts the idea that the bees move eggs into queen-cells, and asserts that the queen lays the eggs in the queen-cells just the same as she does in other cells. If Mrs. A. intends to affirm that the bees never move eggs into queen-cells, we will, as the lawyers say, join issue. My experience and observations on different occasions are so decidedly the other way, that I would like to hear more said about it, and will give one instance as an introduction:

Last season I had a colony of black bees that I wished to Italianize, and to do so I caught out the black queen and gave it a queen-cell in a cell-protector. In about three days the cell hatched, and the bees killed the queen. All of the queen-cells in the hive were then cut out, and an Italian queen given the

colony. In about four days she was found dead at the entrance of the hive.

I then cut out all of the queen-cells again, and gave them a comb of brood from a black colony. This I placed in the upper story between two combs, just made from foundation, and in which an egg had never been. As soon as queen-cells in this comb were under good headway, I grafted three cells with Italian brood of the proper age, and destroyed the remaining cells on that comb, and looked through the lower story or brood-chamber for cells there to destroy, but found none.

I waited and watched with patience for my grafted cells to hatch, but just at hatching time, to my surprise, I found them all torn down, as if by a queen, and, on an examination, I found that a queen had been hatched from one of the new combs, and not only this, but that a number of other queens had been torn out of their cells from the new comb.

I then found myself, as to this colony, with a black queen, just where I started, but I had learned to a certainty that bees can and do move eggs, not only from cell to cell, but from comb to comb, and rear queens from them.

Sneedville, Tenn. H. F. COLEMAN.



The Marketing of Comb Honey in Paper Cartons.

Query 870.—1. Can enough more be obtained for white comb honey by enclosing the sections in paper cartons, to warrant the extra outlay? 2. Does it require a deeper shipping-case when these cartons are used? If so, how much deeper? 3. In using these cartons, should they be left off the row next to the glass side, for the best results?—N. Y.

Not in my market.—MRS. J. N. HEATER.

I have never tried them.—WILL M. BARNUM.

I have no experience with cartons.—E. FRANCE.

I have had no experience. I doubt if they pay.—A. J. COOK.

In regard to all these questions, I must plead ignorance.—M. MAHIN.

1. In some markets. 2 and 3. Some of those New York chaps will tell you.—C. C. MILLER.

I do not want so much "fuss and feathers" to sell a pound of honey.—MRS. L. HARRISON.

To all three questions, I will say I don't know, as I never used cartons.—MRS. JENNIE ATCHLEY.

I would use cartons for convenience in handling only. Nice honey looks better than cartons.—A. B. MASON.

1. It depends upon your market. 2. Yes. 3. I would leave it off a section for sample.—J. P. H. BROWN.

That depends upon your market. In some places they might pay. I never used enough of them to be any authority.—JAMES A. GREEN.

1. I think not generally. 2. Yes, enough larger so the cartons will go in without "squeezing." 3. I should think so.—R. L. TAYLOR.

It all depends upon the class of customers you have. Get a few and try your market, then you will know. I would not advise shipping with the sections in the cartons.—H. D. CUTTING.

1. A small percentage of the honey shipped to the New York market sells better in paper cartons. 2. Yes; a quarter of an inch will be sufficient. 3. No; glass one box.—P. H. ELWOOD.

1. That depends on the market. It would not bring any more here. It is my candid opinion that it will not pay to use them any place. 2. I do not know. 3. Try it and find out.—EMERSON T. ABBOTT.

I have never used them. I doubt if it will pay. A possible exception might be retailing to a few rich people, and then it would seem to me the retailer should enclose a perfect section in a clean carton at time of sale.—EUGENE SECOR.

1. Not in our market. 2. Yes, just enough deeper to make room for the cartons. 3. I use cartons with a round hole in the side next to the honey, covered with mica. This exposes the honey and shows its quality.—J. E. POND.

1. I couldn't. I don't know practically anything about "cartons" for honey in sections. I have no use for such traps. 2. The crates would have to be made to suit the packages. 3. I don't use them at all.—G. W. DEMAREE.

1. It does not pay me for the expense and trouble, as I can get no more for it. It might pay to ship to distant markets, as it will ship more safely. 2. If the sides of the case is glassed, the honey next to it should be exposed.—C. H. DIBBERN.

The comb honey men of large experience are the ones to answer, but on general principles I should say No. The masses want a good article, and want it cheap, and prefer not to pay for any extra dressing up that adds nothing to the quality.—S. I. FREEBORN.

Neither cartons nor glass should be used in putting up sections for the market. Neither helps the sale of honey, and a shipping-case must be used anyway. The bee-keeper will save time and money by putting up his honey neatly but cheaply.—G. L. TINKER.

1. I have never used cartons, but those using them claim they are warranted in so doing, financially. 2. About $\frac{1}{4}$ inch deeper, if I am correctly informed. 3. The Betsinger cartons had a small piece of glass in one side on purpose to expose the honey in each section in a tempting way.—G. M. DOOLITTLE.

1. I think in some cases there can. But where the grocery delivery is had, if there is any convenience or benefit the grocer gets it, and should be the one to pay for the cartons. 2. Proportions larger every way, according to how tightly the cartons fit the sections. 3. Part off and part on—then they will begin to investigate, and the result may be a sale for the sake of curiosity.—JAS. A. STONE.

1. Very often it can. I use cartons for all my home trade where my customers have confidence in me, but like to show the honey to strangers. 2. About $\frac{3}{16}$ of an inch deeper, also the same wider and longer for each section. 3. This method is satisfactory if you are honest enough to put the same grade of honey in cartons as is exposed.—J. H. LARRABEE.

The May New England Magazine contains a paper describing the relations of "Phillips Brooks and Harvard University," written by Alexander McKenzie, an old friend of Dr. Brooks. The article is accompanied with illustrations, which show the familiar haunts of Brooks while at Cambridge. A paper on "Milton as an Educator," by Phillips Brooks is also in this number. Published at 231 Columbus Ave., Boston, Mass.



Report of the Indiana State Bee-Keepers' Convention.

Written for the American Bee Journal
BY WALTER S. POWDER.

(Continued from page 563.)

SECOND DAY—MORNING SESSION.

The convention was called to order at 9:30 a.m., with Pres. Russell in the chair.

The first thing was to appoint a committee, consisting of Messrs. Muth, Pope, and Catterson, to wait upon Gov. Matthews, inviting him to visit the convention some time during the morning.

INDIANA WORLD'S FAIR EXHIBIT.

Pres. Russell—The first thing that is before us this morning, is the question of our appropriation for the World's Fair exhibit. I have talked with the Secretary about the matter, and we think it would be a good idea to appoint a committee from this association, to meet with the committees from other State associations, to wait upon the Legislature to get this appropriation. We will have a resolution drawn up, and then appoint this committee at once.

The following resolution was presented by the Secretary, and adopted unanimously:

WHEREAS, The committee duly appointed, and representing the exhibitors of the State of Indiana at the Columbian Exposition will need additional funds to complete the buildings and to make an exhibit there; therefore,

Resolved, That it is the sense of the Indiana Bee-Keepers' Association, now in convention assembled, that the Legislature should make the appropriation asked for by the said committee, and for the purposes above set forth.

The Secretary offered the following, which was also adopted:

Resolved, That a committee be appointed to meet the committees of other organizations, and petition to the Legis-

lature to make the appropriation asked for.

Committee, Dr. J. M. Hicks, E. H. Collins and S. Johnson.

Mr. Catterson—I think we should adopt some method to get this appropriation; but if there was no honey produced last year, I would like to know how we are to make the exhibit there this year.

Mr. Muth—It is quite true that unless we get the honey this season, we can make no exhibit this year at the World's Fair.

INDIANA FAIR PREMIUM LIST.

Pres. Russell—The other matter before us, deferred until to-day, is in regard to the revision of our premium list for the State Fair. I think that the premiums offered to the Indiana bee-keepers are entirely out of all reason, for they are not sufficient to further our interests as bee-keepers. They should be raised to compare favorably with other States, and this would then act as an incentive to bring the honey-producers and bee-keepers out and repay them for their trouble in making an exhibit at the State Fair. We all know what great interest Mrs. Moore, Mr. Powder, and others have taken in making exhibits there, and in return for their time, trouble and expense, they get ten or fifteen dollars in return as premiums. Is this right? I would now suggest that at least three competent judges be appointed to revise this premium list, and then to award them intelligently at the coming Fair. I would like to hear other opinions on this subject.

Mr. Muth—I think the matter of appointing these judges should be one of great care. We want men who are directly interested in bee-culture, and who will award these premiums in a way that will be satisfactory to all, and a credit to the association.

Here a list showing the amount of premiums offered the Indiana bee-keepers last year was read by Mr. Sylvester Johnson, followed by the reading of a list by the President, showing the amount of premiums, as they should be.

The following resolution was then presented by the Secretary and adopted:

Resolved, That a committee of three be appointed as competent judges to revise the premium list, and award the premiums at the State Fair.

Dr. Hicks—I am in favor of appointing three judges on this committee, and that the premiums should be awarded by a majority of that committee. This,

I believe, is the custom in other States. It is not to be supposed, however, that these men will be exhibitors at the State Fair.

A motion was made by Mr. Poudier that a committee of three competent judges be appointed to revise the premium list, and present it to the Board of Agriculture, that it may compare favorably with other States. The motion was carried, and the following were appointed: Sylvester Johnson, Dr. J. M. Hicks, and E. H. Collins.

A short intermission was taken for the payment of dues, the enrollment of new members, and for recreation from the perplexing questions.

Pres. Russell—We will now proceed with our regular programme, which is an essay by Mr. Chas. F. Muth, on

How to Prevent Swarming to Produce the Best Results, and How to Make a Proper Use of the Queen-Excluder.

It appears to me that a full crop of honey cannot be harvested except when we prevent our bees from swarming, because we know that it is the old bees that are the honey-gatherers, and not the young ones. We know, also, that a swarm is usually the old bees, and when they leave the hive, for nearly a week, or perhaps ten days, no honey-gathering is done at all. We know that when the queen has plenty of chances to deposit her eggs, and plenty of room, she does not get the swarming fever, and she is always the very last one to leave the hive.

For many years I have prevented my bees from swarming, and have been producing principally extracted honey. How to prevent swarming at the honey season is taught us by our friend G. W. Demaree, of Kentucky. I heard his method at the last bee-keepers' convention, and it struck me as a good thing, and I gave it a thorough trial.

Our honey season here begins about the first of June, because then the white clover commences to yield. I at this time take all the combs from the brood-chamber containing brood and honey, and put them into another box and fill the brood-chamber with empty combs, thus the brood-chamber contains a comb, with a queen, some of the bees, and the empty combs. After this is done, the queen-excluder is put on. Put the upper story on, and then cover the hive. If you are in favor of producing comb honey, you can put sections on that queen-excluder.

In the course of a few hours you will see that most of the old bees are down with the queen. You will let them go that way, as the bees hatch and the queen has plenty of bees to assist her in rearing brood, and as the young bees hatch, they go down.

Last year was a very poor one for honey, as I suppose we all know, still I produced some nice comb honey, besides 600 to 700 pounds of extracted honey. I think the queen-excluder is the most applicable thing to prevent swarming. One objection to prevent swarming is that I found a lot of drones upon raising the honey-boxes, that could not get out of the queen-excluder; but you can brush these off, and it makes no difference whatever. After a while, when you are ready, you take the hive off, and you have no idea of the benefit to the bees. You can put the bee-escape on and the honey-boxes on top. I have had about 20, and put in 10 bee-escapes in this manner (illustrating), set the honey-boxes on top, and the next day I commenced to extract. It is a very easy way, and scarcely any trouble at all.

CHAS. F. MUTH.

The entrance of Governor Matthews at this time interrupted further discussion. Mr. Muth made a short address of welcome, as follows:

We have taken the liberty of calling on you to meet with us a little while this morning, not with the intention of having you address us as bee-keepers only, but we desire your aid in putting us on a level with other Associations of the State. Bee-culture is an important branch, and we want this branch of industry protected, and although you may not be thoroughly posted in bee-culture, we feel sure that you will lend us your kind aid and co-operation, and would be glad to have you address us on this subject.

Gov. Matthews then responded in the following words:

Mr. Chairman and Gentlemen of the Convention:—

I think the gentleman who has just spoken has said truly when he suggested that perhaps I was not thoroughly posted in the matter of bee-culture; but I regard it as one branch properly belonging to that of agriculture, and I can safely say that everything pertaining to it even in the slightest degree will have my cordial and hearty support. I think, considering the magnitude of this industry, it has never been thoroughly apprehended. It is an important indus-

try, and it needs encouragement as well as any other department of agriculture. While I am not, as you might say scientifically posted upon the subject of bees, nor made them a particular study, yet I have always found them to be very interesting. They were interesting to me from the time when I first learned that couplet,

How doth the little busy bee,
Improve each shining hour?
It gathers honey every day
From every opening flower:

and it was held up to me as an example, especially when I was inclined to drowsiness in the afternoon sun.

I always found it very interesting, too, when a boy, to run after the bumble bees, and as they alighted on the hollyhocks, close the flowers up and hold them prisoners; and then again, they were always interesting when we used to discover bees'-nests in the fall, or when putting up hay. Aside from all this, it is a subject that has demanded the attention of some of our best men, and it is becoming more and more interesting to those who study into the ways and habits of the busy bees, for it brings them into closer contact with nature, and the closer to nature a man is, the better man he is.

I will say this in conclusion, gentlemen, that in your industry, I am heartily with you. I do not believe that you have met with the encouragement that you should, and that you deserve. I will co-operate with you and lend you all the assistance in my power to see that this department reaches the prominence that it deserves. I am very glad to have had this short talk with you, and have had the pleasure of meeting with you.

Mr. Pope—We should like to have a little assistance about making an exhibit at the World's Fair, and also to have the Commissioners of the World's Fair grant us an appropriation, in order that we can make an exhibit there that will be a credit to our State.

Gov. Matthews—Yes, I quite agree with you, and think this is the time that you should put your best foot forward. I am inclined to think that the Board of Commissioners has slighted this whole department. I do not think they are giving the agricultural department, or the live stock department, the attention that it deserves. There has not been any specific appropriation set aside yet, although I have urged that this be done. If you will allow me to suggest, I think it would be wise for you to confer with

the Executive Commissioner, and have him go before them and make a statement of your plans, the amount you think you should have for this, and to impress upon them the necessity of setting aside a proper amount for the exhibition of your industry. I believe that it would be well to appoint a committee at once.

Dr. Hicks—I move that we give the Governor a vote of thanks for his remarks in our behalf and interest. We shall look to him in his official capacity in connection with our pursuits, and see that we get our best deserts in future operations at our State exhibits.

Mr. Wilson—I am also in favor of giving the Governor a vote of thanks for his kind remarks and promises of hearty co-operation with us.

A vote of thanks was accordingly extended to the Governor.

[Concluded next week.]



The Real Cause of Foul Brood Among Bees.

Written for the American Bee Journal

BY WM. M'EVROY.

Have the scientists been of any value to bee-keepers on foul brood? I must, for the public good, answer this question with a most positive No, and declare that they have not been of any benefit, but often their opinions, when heeded, have done great damage. And now I go in for ruling out the whole lot, stock and barrel of scientists, and Mr. Larrabee along with them. When the bee-keepers have failed to agree on some things about foul brood, and got the scientists to help to solve the problem so as to settle, if possible, all disputes for all time to come, it has only ended in greater confusion than ever, because the scientists have not only disputed the discoveries of practical bee-keepers, but they have actually contra-

dicted each other. What is such evidence worth?

I have discovered the real cause of foul brood, and from *experimental testing of my own* I discovered the simplest and most practical way, with the least work, of curing that disease; and I have had more experience with foul brood than any other man on earth.

In the AMERICAN BEE JOURNAL of Feb. 16th, page 215, I see that Mr. Larrabee doesn't agree with me on anything. All right; he has a perfect right to his opinions, but I must remind him that mere guess-work or opinions like his won't count against discoveries.

I will now give you evidence that would count in any court of law, and that any judge on the bench would accept, and charge a jury to believe, as they are solid facts. The following is part of the evidence which no Mr. Larrabee on earth can get over, and is enough "dictum," I should think, to convince any man; but if he wants more, I shall give him plenty more along the same line:

One fine day in April, 1875, when my bees were flying freely, the bees of one colony all came out, and about two-thirds of them got into another before I got the hive closed. I then took the remaining third of the bees and the queen, and returned them to their own hive.

Then about sundown, when the bees had settled for the day, I examined the colony that swarmed out and lost two-thirds of its bees, I found plenty of honey, a nice lot of brood in all stages, but too small a cluster of bees to cover or care for the amount of brood. That colony having lost the most of its bees, the uncared-for brood died and rotted in the cells. Then by the middle of June that colony had developed into a genuine case of pure foul brood, which gave me many a day's very bitter experience before I got rid of it.

In the summer of 1882, Mr. C. J. Robinson, of Richfield, N. Y., originated foul brood in his own apiary, by forcing brood to consume their food mixed with rotten larvæ. Mr. Robinson had some combs with brood in that were taken out of the hives at extracting time, and were not returned to the hives through mistake. The weather being warm at the time, and the combs of brood being piled on top of each other in a building, the brood heated and soon became very rotten. Mr. Robinson then went to a colony of bees, took out a comb of brood, brushed the bees off, and then put the matter from the rotten combs into the cells that had brood in, and to force the

brood to consume it he put a screen on each side of the comb, and then put it back into the hive of bees again. The comb of brood was kept warm by the heat of the colony, and the screen kept the bees from feeding the brood. Then the larvæ was forced to consume the rotten matter, and then it became foul brood.

In 1888, the Rev. Mr. Gruetzner, of New Dundee, Ont., had foul brood originate in his apiary. In a letter I received from him, Mr. Gruetzner says:

"In the spring I placed entirely healthy combs of brood from other colonies into a weak but healthy colony; very soon the young brood died, intense heat set in, and the whole colony became full of foul brood. In Germany the opinion seems to be universal that deceased brood is the cause of foul brood."

In June, 1889, Mr. Wm. Burkholder, of Otterville, Ont., had foul brood originate in his apiary, from starved brood. Mr. Burkholder had a very strong colony of well-bred Italians, which consumed all their honey just a little before the honey season opened, and which he found in a dying state one morning. He fed them at once, and the majority of the bees came out all right again. All the brood in the colony had died at that time from starvation, and rotted in the combs. Then warm weather set in, and the whole colony became full of pure foul brood.

In June, 1890, Mr. Charles Urlocker, of Thorold, Ont., had 30 colonies of bees turned into foul brood from drowned brood. In June, 1890, Mr. Urlocker had 40 good colonies with a top story on each hive, and a queen-excluder on every brood-chamber. Just then a sudden storm started up, and a big cloud bursted over Thorold, and for a time caused a terrible flood. Mr. Urlocker's apiary was in low land, the water rose very rapidly, and soon 10 brood-chambers were under water, and as the queens could not get up through the queen-excluders, they were drowned, as well as the brood. The water did not get quite up to the tops of the brood-chambers of the other 30 colonies, so the queens did not drown in them. The bees in nearly all went up into the top stories at the time. These colonies were very strong, and some had swarmed before that, and were full of brood when the flood overflowed the apiary. The water soon went down, extreme heat set in, and the brood-chambers full of drowned brood went into a great mass of corruption, and turned Mr. Urlocker's

apiary into foul brood with a vengeance. In the Foul Brood Bulletin, page 14, Mr. D. A. Jones, of Beeton, Ont., says:

"A man once had a hundred colonies in an isolated locality, with no other apiary within miles of it, and no bees in the woods, as far as known; there were no signs of foul brood in his apiary all summer, though the colonies were carefully examined once or twice each week. In August or September, a flood came and drowned a large portion of the brood in some of the hives; 10 or 15 of them were so much injured by the flood that the bees did not remove the dead brood, and in most of these colonies nearly all the combs were full of brood. The weather, after the flood, was very warm and muggy, the atmosphere very oppressive for days, with frequent showers. All the colonies from which the dead brood were removed came out all right, while the 10 or 15 from which it was not removed became very badly diseased; they attempted to rear brood, but some of it was affected, so much so that the odor arising from the brood dying was very unpleasant. When all the dead brood was removed, the disease continued, and it appeared that the spores of the disease were in the honey, as many of the larvæ were found dead. Each time brood was reared the disease continued to increase, in spite of salicylic acid and other treatments then in vogue. Honey from the combs when given to a healthy colony produced the disease. It appeared in every respect like foul brood, and I feel satisfied that it was. Now, if it did not emanate from the decaying brood, which was a mass of corruption, where *did* it come from?"

Mr. John F. Gates, of Ovid, Erie Co., Pa., U. S., had foul brood originate in his apiary from his bees dwindling so badly one very backward spring that the bees could not cover or care for and keep warm the brood they had started during the early warm spell. When weather came in earnest, Mr. Gates examined his colonies and discovered that the rotting of the uncared-for brood had developed into foul brood.

Foul brood is a disease that is caused by the rotting of uncared-for brood. It usually originates in spring in weak colonies that have spring-dwindled so badly that they have not bees enough left to cover or care for all the brood, and if the spring keeps raw and backward the bees will crowd together to keep each other warm, leaving the uncared-for brood to die and rot in the cells. The brood covered by the bees in time

hatches, which so increases the force of the colony that a wider circle of comb is covered by the bees taking in the space occupied by the decaying brood. Then the brood that is fed in these cells where brood lately rotted down, will have to consume their food mixed with the remains of decayed brood, and that is the whole, sole, real, and only cause of foul brood.

In the bee-yards of beginners, overworked farmers, and business men (whose time was fully occupied in other things) is where I found many a foul brood nursery. When brood has rotted and advanced to the brown-rotten-matter stage it is then a very dangerous thing, and if a large quantity of that is put in a weak colony it *will start foul brood at once*. The so-called scientists have done a terrible lot of damage by saying that the rotting of uncared-for brood could not cause foul brood; that sort of teaching has caused bee-keepers to be very careless, and when foul brood has broken out in their apiaries, it makes rapid headway because the owners did not take proper care of their colonies, but depended too much upon the so-called scientists who are not practical bee-keepers.

In the summer of 1890 Mr. John F. Gates wrote up the cause of foul brood, and had it published in the *Canadian Bee Journal*. When I read it I was greatly pleased to see that Mr. Gates had discovered in his own apiary that foul brood was caused by the rotting of uncared-for brood. I wrote Mr. Gates a letter at the time, thanking him very much for his valuable article on the cause of foul brood. He is just right on both the cause and cure of foul brood, and it will be a good thing for all bee-keepers, that have foul brood in their bee-yards, if they will follow his instructions how to cure that disease, and let the professional guessers carefully alone until they find out.

In the fall of 1890, I was very much pleased with an article that Mr. C. J. Robinson, of Richfield, N. Y., had published in the *AMERICAN BEE JOURNAL*, on the cause of foul brood, and as that was a real test case of his, proving that foul brood was caused by the rotting of uncared-for brood, I prized his article very much, as that was in the same line of my discovery. I wrote Mr. Robinson at the time I read his article, and also thanked him for it.

Some bee-keepers believe that the empty hives that had foul brood in, will cause foul brood if not boiled, scalded, or disinfected, which is the greatest of

nonsense. An empty hive never, no never, gave the disease, and never will. I always tell the owners not to waste their time in disinfecting or doing anything with the old hive, but cure the disease right in the same hive, which they always do.

Some think that the queens in very badly diseased colonies will cause foul brood, which I know is anything but a fact. I often have to put two, three, and sometimes four weak colonies into one, that have been so used up from foul brood, in order to get a fair colony to make it pay to cure them of foul brood. In such cases, if the queens suit me, I get them for nothing, and bring them home and do away with some poor queens, putting these queens from the foul colonies into my own. I have proved it in every possible way, and I know for a fact that the queens never did cause foul brood.

Comb foundation has been blamed for helping to spread foul brood, which is not a fact. I defy any man to cause foul brood from foundation made from wax rendered out of the *worst of foul broody combs*. The disease is spread by the bees robbing foul broody colonies, and they carry the disease just in proportion to the amount of the diseased honey they convey to their own hives.

In my next article I will give all my methods of curing foul brood. I don't use any drugs, nor starve any bees at any time, and any man can cure the worst cases of foul brood by my methods, from May to November. I am getting many letters on this business all the time, and hope that my articles in the AMERICAN BEE JOURNAL will serve as an answer to many of them.

Woodburn, Ont., April 24, 1893.

In-Breeding of Bees—Colonies in Good Condition.

Written for the American Bee Journal
BY C. THEILMANN.

The question asked Mrs. Atchley, on page 461, is in short answered by Mrs. A. that she don't know, while at the same time she knows of 30 colonies kept in box-hives, 10 miles from any other bees, and all started from one colony, at least 15 years ago, and which are still in the best of health and prosperous condition. Should not this be evidence sufficient that "line" breeding does not, with bees at least, degenerate them in any wise?

Mrs. Atchley says that she does know that in-breeding makes a vast difference in the animal creation, and that retrograding begins just as soon as in-breeding starts; she doubts whether this holds good with bees. This view coincides with my own. I would only ask further, can bees really breed in? What, in reality, is in-breeding? If I understand in-breeding correctly, it is the copulation or connection direct by parents and children—any other breeding would be what is called "line breeding." If I am wrong in this, then I would like to be set right; but if I am correct, then I would further say that when God created the honey-bee, he put a stop to the in-breeding part, as you all know, by subduing every drone in the act of copulation with the queen, and by the construction of the queen so that she is fertilized for her whole life by the one connection; this prevents in-breeding entirely by the bees.

Line breeding is claimed, by our most experienced breeders of domestic animals, as not only detrimental, but beneficial, if judiciously done.

Whether the human race has made progress or retrograded in this respect since Cain had to take his sister to wife, is beyond my apprehension. I would not be afraid of my bees degrading if left entirely to themselves, but I know I have better bees now, for every purpose, than I would have had if I had let them have their own way for the past 20 years, and this was done by selecting and breeding from the best.

I put my 300 colonies of bees out from the 5th to the 10th of April. All were alive except one colony; but three of them swarmed out the same day when put out. They have lost more bees in the cellar than usual, also considerable honey in some of the hives is candied. Some of them are rather weak. The others are in fair to good condition.

On April 10th soft maple was in full bloom, and my bees brought in pollen in less than one hour after being put out. Since then the weather has been cold (20° above on the 15th), wet and cloudy. To-day, at 1 p.m., we have over one foot of snow, and it is still snowing hard, with 31° above zero. It is a sight, seeing a foot of snow on top of my bee-hives, and the trees loaded heavily with the snow, instead of blossoms. No cleaning out, or anything else could have been done safely with the bees since the 10th, on account of the cold, raw air we have had.

There has been but very little seeding

done here as yet; the land is too wet, and there is no prospect now for a week or ten days.

Theilmanton, Minn., April 20, 1893.

Bees in Virginia—Experience in Wintering Bees.

Written for the American Bee Journal
BY CHESTER BELDING.

Perhaps a little "buzzing" from this part of the Sunny South will be read with interest. We are here for the mild winters, our home being in Orange county, N. Y., where we have kept bees for the past 30 years. There are quite a number of bees kept in this locality, but as far as we can hear they are entirely without profit, for want of any special honey harvest. They subsist year after year as the winters are so mild, and usually swarm frequently, seemingly getting just about honey enough to keep them breeding, and make them self-sustaining; and what honey they do get is very poor in quality, and often unpleasant to taste. I noticed bees gathering pollen here some two weeks ago.

At my home in New York I left, last November, 53 colonies, part in chaff hives, part with outside cases packed between with leaves, and part in single-walled hives. Friends inform me that they had a flight on Feb. 20th, also on March 12th; and a bee-keeper near by there tells me his bees are seemingly wintering well.

When I first commenced bee-keeping I wintered them in cellars, but I was unable to do it satisfactorily; some would get uneasy and die, others would come out with moldy combs, some would get the diarrhea, and succumbed to the first cold snap after being put out in the spring; and then some old farmer near by, who left his bees out on the summer stands all winter, in box hives, with their bottoms up an inch or more for the air to circulate under, would have earlier swarms than I could possibly get; therefore, I discarded cellar quarters, as it was more work, and I consider bees much more safely wintered, and breed up earlier in the spring when wintered out-of-doors.

For the last two winters the percentage of loss was less in the hives without any outside protection than in chaff or packed hives, and we are not as particular to confine the bees to just what combs they will occupy or cover, but

often give one swarm two hives, one top of the other, and place the brood and store combs about half and half in each hive, then put a dummy board on each side, and fill with leaves, if you choose. We think this narrow and high winter quarters is a good thing, and insures warmth and dryness to the cluster during the winter confinement. We doubt not that others have success with beecellars, and where they have such long, cold winters they may be desirable.

Claremont, Va., March 18, 1893.

Wintry Weather—Using Methods of Others, Etc.

Written for the American Bee Journal
BY S. B. SMITH.

Bee-keepers in this part of the country supposed that spring had come, and carried their bees from the cellars to the summer stands the last week in March and the first of April. I carried mine out April 3rd. Yesterday it snowed all day, and to-day we are having a real winter blizzard. As I look out of the window I cannot see 20 rods. There is over one foot of snow now, and it is still snowing. This will seem rather chilly to our Southern friends who may chance to read this.

Farmers have a large amount of wheat sown, but this storm will cause them to suspend operations for a few days. It is not very cold (30° above zero) so I think it will not injure the bees.

We have had a long, cold, hard winter, but I have not heard of any very serious loss among bee-keepers. I think that every bee-keeper ought to take some bee-paper (I think the BEE JOURNAL one of the best), as the ideas and suggestions are a great help to all of us, whether old in the business or beginners.

I have learned that in order to make a success in the bee-business it is necessary to adopt some one of the many methods of our best apiarists. One man makes a success extracting honey, another with one-pound sections. In this vicinity comb honey sells better than extracted, therefore the apiarist should work for comb honey.

In large apiaries different kinds of hives may be used to advantage, but in small apiaries such as farmers have, it is better to have one kind, and then the brood-frames will fit any hive, and this is a great advantage if we wish to strengthen a weak colony with brood-comb or honey. Some men succeed by

dividing colonies; I can do better to let them swarm naturally; so in whatever method a man can succeed best, let him stick to that. It is necessary to have system in bee-keeping, the same as in all other occupations, in order to succeed.

Mr. Chas. White, on page 471, tells how to catch swarms of bees. When I read it I was inclined to laugh at it, as being somewhat whimsical, like the old mullen-stalk for catchers, which I tried years ago without success; but after thinking the matter over, I concluded as there is a scarcity of trees here for bees to cluster on, I would try Mr. White's plan this season, and if I am successful I will report through the BEE JOURNAL, and thank Mr. White for giving the information.

Keeville, Minn., Apr. 20, 1893.

P. S.—The storm still continues. This is the third day—April 21st. School closed to-day on account of the blizzard.

THE LAND OF DZIERZON

CONDUCTED BY

H. REEPEN,

OLDENBURG, GROSSHERZOGTHUM, GERMANY.

The Queen is a Hermaphrodite.

Mr. Metzger published another surprising statement. He says:

There is no parthenogenesis, as the queen is a hermaphrodite. Those cells without nucleus referred to in our report on page 330, which are to be found in the seminal vesicle of the queen, have the destination to *fecundate the drone-eggs*. Some of these cells will always be found on the surface of drone-eggs. They are too thin to be detected with the microscope; if wanted to be seen they have first to be washed off. Therefore, *all* eggs are fecundated. If the receptaculum seminis could be castrated, a queen could lay deaf or sterile eggs only, from which neither drones nor worker-bees could develop.

Mr. C. J. Robinson is partly companion of Mr. Metzger, when saying, "It is the sum of ignorance, that a queen can receive into her 'sac' sufficient spermatie fluid for six or more years." But we recommend the book by Cowan, "The Honey-Bee," to this gentleman, in order to know what is meant by par-

thenogenesis *now-a-days*. The definition given by him in the AMERICAN BEE JOURNAL is "the sum of ignorance."

If Metzger is right, we cannot speak any more of parthenogenesis, but I am deadly sure he is not right, as a kind of castration of the "sac" has already been made by Dr. Donhoff (1851-54) and by Cowan, and the fecundated queen could lay *drone-eggs* only after this. This proves that Metzger is wrong.

Is Honey-Dew Aphidian Honey, or a Secretion of the Leaves?

Dzierzon says: Honey-dew is nothing but a product of the aphids; but nearly all other bee-masters in Germany pretend it is *sometimes* only a secretion of the tree-lice, and sometimes an exudation or perspiration of the leaves.

Rain of Honey-Dew.

There was simply a rain of honey-dew last season in the Black Forests and in the Vosges Mountains. One prime swarm of Mr. Veirling, of Hiederhaslach, gave the following results:

June 16, 30 pounds of honey-dew.

July	7, 53	"	"	"
"	23, 47	"	"	"
"	28, 32	"	"	"
Aug.	5, 52	"	"	"
"	12, 46	"	"	"
"	18, 40	"	"	"
"	25, 45	"	"	"

Total, 345 pounds.

Mating of a Queen.

Dr. C. C. Miller, in his incomparable "Stray Straws," took notice of three cases of fecundations of the queen in the hive as reported in the German *Centralblatt*. These three cases are only observations (?) without scientific value.

The general belief is, that the fecundation takes place *high* up in the air, but during the last season some three or four cases have been reported, showing that copulation will take place *close to the hive*; even when bees are swarming, the young queen will be fecundated amidst the swarm.

I am the happy owner of a couple which was found in the bee-yard when a colony had just cast a second swarm. As the swarm was going back to the

hive, the bee-keeper looked out for the queen, and found her on the ground some 25 yards off from the hive, in this position:



I hope to be able to show this couple *in natura*, to visitors of the World's Fair, as I have been selected as a delegate to the Columbian Exposition for the Kingdom of Prussia.

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old colonies, and putting them into the new hives, and filling them all up with empty frames. That gave me 6, all about equal; 4 of them worked about as usual, 2 of them never showed their heads for a week—perhaps they had no queen, and I had no experience in finding one, so I let them shift for themselves, then they went to work all right. On Thanksgiving day I put them all into the cellar.

My cellar is cemented, and has a furnace in it. I put them into the coldest part, where it ranged 40 to 45 degrees above zero, and they were as still as mice all winter. On March 26th, it being warm, 50 degrees above zero, I carried them out to their old stands, and gave them a flight. They had a fine time, and so did I. I put on my new veil, and whilst they were out I took the frames from the first one and put them into an empty hive adjoining, and cleaned out the dead, and scraped it clean, then put them back again, putting the cloths on top, then the covers. I served them all the same way. They never offered to fight. They have plenty of honey, a clean hive, no moths—why, they were so glad over their clean quarters and flight, that they would buzz with their wings in front of the hive entrance. Give me the cellar for wintering bees.

GEORGE RACKLEFF.

Woodford, Me., March 30, 1893.

Bees and the Weather.

Bees are all O. K.—what are left. I have lost 10 colonies out of 15. It snowed here the 14th 3 inches deep.

JOHN V. EMMERT.

Lebanon, Ind., April 17, 1893.

Bees Wintered Nicely.

Bees have come through the winter nicely in this locality, nearly all being wintered on the summer stands. On April 3rd my bees were bringing in pollen in abundance, but to-day we have six inches of snow. However, it will all be gone to-morrow, and the birds will be singing as sweetly as ever. I am pleased with the AMERICAN BEE JOURNAL.

M. BEAUPRE.

Forestville, Ont., April 15, 1893.

Bees in Poor Condition.

Last year was a poor year with us. I got only about 200 pounds of comb honey from 21 colonies. There was too much rain the forepart of the season. Bees went into winter quarters in good condition. I put them into the cellar on Nov. 15th, and took them out on April 3rd. Every colony was alive, but they had the diarrhea badly. I think I will lose $\frac{1}{2}$ of them. On March 1st I examined them, but found no signs of disease then, but they were confined too long $\frac{1}{2}$ months in the cellar—without a flight. It will not do, I don't care how good their stores are, I don't believe they will stand it.

I am going to move them six miles on a wagon in a few days, to a better location. They will have more fruit-bloom and white

clover, and quite a good deal of Alsike and basswood. I hope and pray that we may have a better season this summer. I shall have to manage the bees all alone now. One year ago last fall my two youngest boys died—all the help I had; now we are left alone. It is hard to bear, but the Lord's will, not mine, be done.

L. REED.

Reed City, Mich., April 9, 1893.

Lost Only 3 Colonies.

I took my bees out of the cellar last Tuesday, and lost only 3 out of 23 colonies in wintering.

B. M. SAVAGE.

Independence, Iowa, April 11, 1893.

Dealing Direct with Producers.

I am especially pleased with the position of the BEE JOURNAL on the adulteration of honey. We California bee-keepers feel that our business is very much injured by commission men in our State, who use glucose in abundance in the adulteration of extracted honey, and then ship it East as California white-sage honey. If Eastern dealers desiring California honey would deal directly with the producer, I think it would do very much to offset the sales of adulterated honey from this State by commission men. They might learn who we are by correspondence with our State Secretary, Mr. J. H. Martin, of Riverside, who, I believe, was authorized to give us some assistance on the question of selling our honey.

ALLEN BARNETT.

Whittier, Calif.

CONVENTION DIRECTORY.

Time and place of meeting.

1893.
May 18, 19.—South Texas, at Wharton, Tex.
T. H. Mullin, Sec., Eagle Lake, Tex.
May 19.—Lambton, at Sarnia, Ont.
J. R. Kitchin, Sec., Weidmann, Ont.
May 25.—Capital, at Springfield, Ills.
C. E. Yocom, Sec., Sherman, Ills.
Oct. 11, 12, 13.—North American (International), at Chicago, Ills.
Frank Benton, Sec., Washington, D. C.

In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRESIDENT—Dr. C. C. Miller....Marengo, Ills.
VICE-PRES.—J. E. Crane.....Middlebury, Vt.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York....Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.

Honey & Beeswax Market Quotations.

The following Quotations are for Saturday, May 6th, 1893:

CHICAGO, ILLS.—Honey is about cleaned up so far as fine comb is concerned. Quite a good deal of poor to fair is on sale, prices ranging from 13 to 15c. Fancy would bring 18c. Extracted, 6@8c. Beeswax, 25c.
R. A. B. & Co.

KANSAS CITY, MO.—Receipts and stocks very light, demand good. We quote: No. 1 white 1-lbs. 16@17c.; No. 2, 14@15c.; No. 1 amber 1-lbs. 15c.; No. 2 amber, 10@12c. Extracted, white, 7@7½c.; amber, 5@6.
Beeswax—20@23c. C-M. C. C.

CINCINNATI, OHIO.—There is a fair demand for extracted honey at 6@8c. There is no choice comb honey on our market, and prices are nominal at 14@16c. for best white. Beeswax—Demand good, at 24@27c for good to choice yellow. Supply good. C. F. M. & S.

NEW YORK, N. Y.—Comb honey is well cleaned up. Fancy white is selling at 14@15c. Off grades, 12@13c., and buckwheat, 9@10c. Extracted is dull, and the market well stocked with West India honey, which sells at from 68@75c per gallon. Beeswax, 26@28c.
H. B. & S.

SAN FRANCISCO, CALIF.—Choice extracted is scarce at 7@7½c., and demand heavier than supply. Choice comb is not scarce at 10@12c., according to quality. 1-lbs. Beeswax is neglected at 22@23c.
S., L. & S.

KANSAS CITY, MO.—Demand good, supply very light. White 1-lbs., 16c. Extracted, 8@7c. No beeswax on the market. H. & B.

CHICAGO, ILL.—Fancy stock is very scarce, with plenty of inquiry, with good prices offered for same. It sells readily at 18c.; No. 1 comb, 16@17c. Dark sells slow. White extracted, fair supply, with good demand at 8½; dark, 6@7c. Beeswax—23@25c. J. A. L.

BOSTON, MASS.—Honey is selling slow and prices are lower. Best 1-lb. comb, 16@17c.—Extracted, 8@10c.
Beeswax—None on hand B. & R.

MINNEAPOLIS, MINN.—The market is good. We quote: Fancy white clover 1-lbs. sell fast at 18c.; 2-lbs. 16@17c. Buckwheat, comb, 13@14c. Extracted, in barrels, 7@8c.; in 5 or 10 lb. kegs., 9@10c. J. A. S. & C.

ALBANY, N. Y.—Honey market quiet at following prices: White comb, 14@15@16c.; mixed, 12@13c.; dark, 10@11c. Extracted, white, 8@8½c.; mixed, 7@7½c.; dark, 6½@7c. Beeswax, 26@30c. H. R. W.

Mrs. J. P. Cookenbach, whose advertisement appears on page 579, will be glad to have you write to her to secure a good place to stay during your visit to the World's Fair the coming summer. The BEE JOURNAL refers its readers and friends, with much pleasure, to Mrs. C., who will do the right thing by all who give her an opportunity to help them.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

R. A. BURNETT & Co., 161 South Water Street.

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.

HILDRETH BROS. & SEGELKEN,

28 & 30 West Broadway.

San Francisco, Calif.

SCHACHT, LEMCKE & STEINER, 10 Drumm St.

Minneapolis, Minn.

J. A. SHEA & Co., 14 & 16 Hennepin Avenue.

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.

CLEMOMS-MASON COM. Co., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway

Hamilton, Ills.

CHAS. DADANT & SON.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central avs.

Bee-Keeping for Profit.—We have just issued a revised and enlarged edition of Dr. Tinker's book, called "Bee-Keeping for Profit." It details his most excellent "new system, or how to get the largest yields of comb and extracted honey." The book contains 80 pages in all, and is illustrated. Price, postpaid, 25 cents, or clubbed with the BEE JOURNAL for one year, for \$1.15.

Wants or Exchanges.

Under this heading, Notices of 5 lines, or less, will be inserted at 10 cents per line, for each insertion, when specially ordered into this Department. If over 5 lines, the additional lines will cost 20 cents each.

TO EXCHANGE—High Grade Safety Bicycle, for Honey or Wax.
17Att J. A. GREEN, Ottawa, Ill.

TO EXCHANGE—Good 6-inch Vandervort Fdn. Mill, for wax, honey, or offers.
18A4t J. H. & A. L. BOYDEN, Saline, Mich.

WANTED—To exchange, Extractor, Eight or Ten Frame Hives, Barnes' Saw, for Bicycle, Beeswax, Honey or offers.
19A1 O. H. HYATT, Shenandoah, Iowa.

WANTED—To exchange, Warranted Italian Queens for a few strong Colonies of Bees. Write at once to J. F. WOOD,
19A1t North Prescott, Mass